# COORDINATING PEDIATRIC MEDICAL CARE ACROSS A COMMUNITY DURING AN INFLUENZA PANDEMIC

Clinician Outreach and Community Activity (COCA)
Conference Call
September 22, 2010



# **Objectives**

# At the conclusion of this hour, each participant should be able to:

- Discuss how primary care and multispecialty clinic can work collaboratively to manage pediatric emergencies during a wide spread H1N1 pandemic
- Describe steps which may be taken to promote infection control in an outpatient setting
- Identify elements that should be included in a healthcare facility's emergency plans to address a surge in pediatric patients

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ACPE: CDC is accredited by the Accreditation Council for Pharmacy Education as a provider of continuing pharmacy education. This program is a designated event for pharmacist to receive 1.0 Contact Hours in pharmacy education.

### **TODAY'S PRESENTERS**

#### **Sherline Lee, MPH (Moderator)**

**Epidemiologist Division Of Healthcare Quality Promotion Centers for Disease Control and Prevention** 

#### Sarita Chung, MD

**Assistant Professor of Pediatrics Children's Hospital Boston** 

#### Molly Dunn, RN

Site Coordinator Pediatrics, Allergy, and Genetics CentraCare Clinic Women and Children

#### Tom Schrup, MD

Associate Medical Director CentraCare Clinic

#### Mike Anderson, MD

Vice President and Associate Chief Medical Officer University Hospitals of Cleveland and Associate Professor of Pediatric Critical Care Case Western Reserve University, School of Medicine

# Pediatric Healthcare Response to Pandemic H1N1 Influenza

Sherline Lee, MPH
Division Of Healthcare Quality
Promotion (DHQP)



The findings and conclusions in this presentation are those of the author and do not necessarily represent the views of the Centers for Disease Control and Prevention/the Agency for Toxic Substances and Disease Registry



## Resources and Tools

- Planning Guide for Vaccinating Pediatric Patients Against 2009 H1N1 Influenza in Primary Healthcare Settings
- Health Care Providers and Facilities Decision
   Tree for 2009 H1N1 Vaccination
- Pandemic Influenza Pediatric Office Plan Template
- Coordinating Pediatric Medical Care During an Influenza Pandemic: Hospital Workbook





# Agenda

- Disaster Preparedness Initiatives
- Pediatric office response to 2009 H1N1
- Pediatric Surge and Hospital Readiness





# American Academy of Pediatrics Disaster Preparedness Initiatives

Sarita Chung, MD, FAAP
Disaster Preparedness Advisory Council



Division of Emergency Medicine Children's Hospital Boston Assistant Professor of Pediatrics Harvard Medical School



## DISCLOSURE STATEMENT

- Nothing to disclose.
- In the past 12 months, I have had no relevant financial relationships with the manufacturers of any commercial products or providers of commercial services discussed in this CME activity. I do not intend to discuss an unapproved/investigative use of a commercial product /device in my presentation.

# Children, Pediatricians, and Disasters







# Disaster Preparedness Advisory Council

(Initiated July 2007)

Council: Primary Care, Mental Health, Infectious Disease, Emergency Medicine

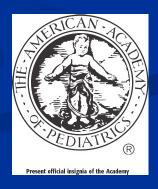
Liaisons: DHS, CDC, FDA, NICHD, HHS ASPR Network:

50 pediatric disaster experts 600 members interested in disaster medicine



# DPAC Activities/Accomplishments

- AAP Strategic Plan
- National Commission of Children and Disasters
- Advocacy and Policy Initiatives
- Appointments/Representation at Meetings
- Comments on Federal Proposals including the National Response Framework, National Recovery Framework
- Educational Presentations
- Pediatric Countermeasures Agenda
- Practice-based Resources
- Publications
- Testimony



# **AAP Activities: H1N1**



- Quickly recognized as a pediatric pandemic
- Worked closely with CDC
  - To examine evidence and recommend to change guidelines
  - Identify children at high risk for severe illness
  - Influenza treatment algorithm for children
  - Practice guidelines for primary care offices and hospitals



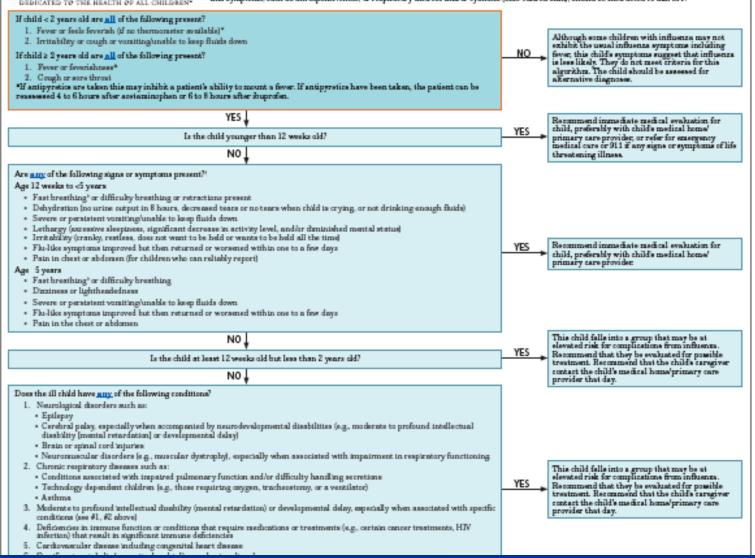
#### of Pediatrics



DEDICATED TO THE HEALTH OF ALL CHILDREN\*

#### 2009-2010 Influenza Season Triage Algorithm for Children 18 years) With Influenza-Like Illness

This algorithm was developed for use only by physicians and those under their direct supervision, not for use by general public, to help in discussions and providing advice to parents or other caregivers of ill children regarding seeking medical care for an influenza-like illness. The algorithm can be used regardless of whether or not the child has been vaccinated for influenza. Caregivers of children who may have potentially life threatening signs and symptoms, such as unresponsiveness, or respiratory distress and/or cyanosis (blue-colored skin), should be instructed to dial 911.





#### Disaster Preparedness for Pediatric Practices: An Online Tool

Disasters are unpredictable and can cause loss of life, destruction of property, and disruption of business operations. Pediatricians face special concerns including the inadequacy of disaster planning in addressing the needs of children (especially those with special needs), and the ongoing need to develop or improve their pediatric offices and personal disaster plans. A working plan can help practices reduce risks, maintain practice operations, and ensure a medical home for children in their care.

#### Develop your Disaster Plan Now

#### Instructions

Create a disaster preparedness plan for your medical home practice by answering questions in this interactive tool.

#### Choose a topic below:

- · Practice Information
- · Review Key Resources
- Plan for Continuing Operations
- · Review Insurance Coverage
- Store Essential Supplies and Minimize Risk to Equipment
- Protect Patient Records and Office Files
- Handle Vaccine Issues
- · Attend to Facility Issues
- · Consider How to Handle Infection Control
- Prepare Office Staff/Employees
- Develop Service and/or Evacuation Plans
- Prepare an Office "Emergency Go Kit"
- · Prepare a Plan for Communicating with Clients
- Develop a Preparedness Plan for Your Home and Family

#### **Key Resources:**

A Disaster Preparedness Plan for Pediatricians an article by Scott Needle, MD, FAAP that includes guidance and background information to help staff prepare the office in advance of a disaster.

The Role of Pediatric Health
Care Providers an article by
Daniel Fagbuyi, MD, FAAP and
Jeffrey Upperman, MD, FAAP
that offers steps pediatricians
can take to promote pediatric
emergency preparedness in the
community (exiting site).

#### **Supplemental Resources:**

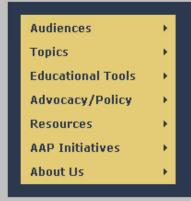
- AAP Children and Disasters Web Site
- · AAP Health Topics Page on Disasters
- Continuity of Operations Plan
- Emergency Information Forms and Emergency Preparedness for Children With Special Health Care Needs
- Insurance Coverage for Vaccine Loss
- Pandemic Influenza Plan: Template for

Home | Parenting Corner | Health Topics | Bookstore & Publications | Professional Education & Resources | Advocacy | Members | About

# Children & Disasters



#### Disaster preparedness to meet children's needs



Featured Topics: Community Preparedness

- AAP Information on the Oil Spill Affecting the Gulf Coast
- Disaster Preparedness for Pediatric Practices: Online Tool
- Financial Crisis: Talking to Kids About the Economy
- Hurricanes and Tropical Storms
- National Preparedness Month September 2010

#### What's New

Policy Statement Emergency Preparedness for Children With Special Needs

Preparedness Checklist Hospital Emergency Depts Hospitals can ensure
day-to-day emergency
preparedness and promote
disaster readiness for children
by taking steps to have the
appropriate resources (eg,
equipment, medications,

#### **Key Resources**

**Active Disasters Page** 

Guidelines: Care of Children in the Emergency Department

Helping Children Cope

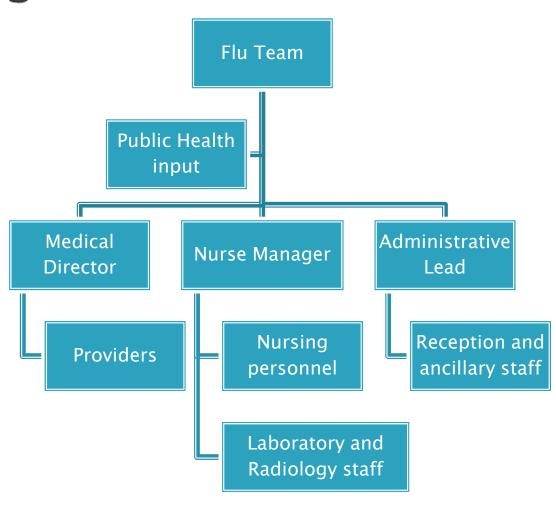
http://www.aap.org/disasters/index.cfm

# Pediatric response to H1N1 2009

CentraCare Health System

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# Ambulatory pediatric decision making structure



# Flu Team Responsibilities

- Leadership
  - Decision making authority
  - Leading by example on the front lines
- Communication
  - Internal
    - Providers, nursing, other staff
  - External
    - Patients, public health contacts
- Development of policies and procedures
  - Segregation of patients
  - Staffing, exclusion from work

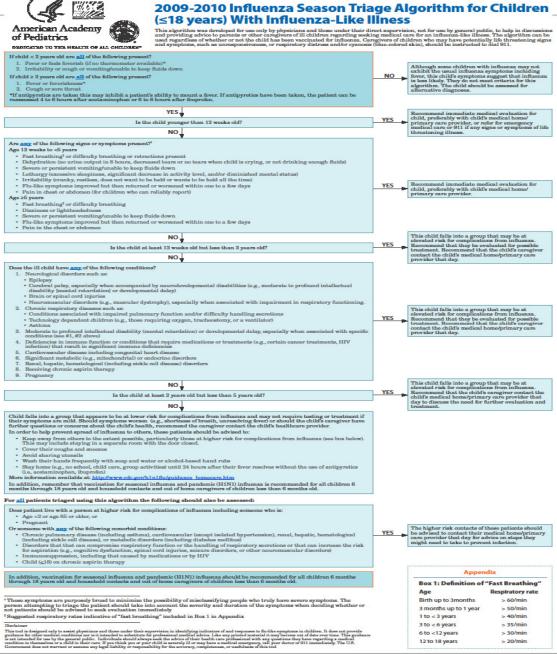
# Communication

- Occurred through multiple modes:
  - Staff and patients
    - Website updates
    - Telephone messaging
    - Mass media
  - Staff alone
    - Email
    - Presentations/Q&A sessions
    - Daily briefings prior to work

# Triage: Case Definitions

- Confirmed case: a person with an acute febrile illness with laboratory confirmation with one of the following tests:
  - RT-PCR
  - Viral culture
- Probable case: A person with an ILI(fever with cough or sore throat) who is positive for influenza A, negative for H1/H3 by PCR
- Suspect case (per MDH): a person with an ILI
- ▶ ILI: temp>100 plus cough or sore throat

# Triage



CS207963

# Triage Challenges

- Broad case definition
- Worried well
- Frequency of risk factors in the population, specifically asthma
- Lack of accurate rapid test
- ▶ Intermediate risk 2-5 age group

# Staff Education

- Mandatory staff education sessions
  - Same educators for all sites
  - Same message (Clinic, Hosp, Region and State)
  - Jeopardy Power Point
  - Q & A Session
  - Correct usage of PPE (donning and doffing)
  - Daily Updates
  - See page # 7 (Pediatric Office Pandemic Plan template)

# Patient Education

- Hand Washing (Signage in multiple languages)
- Proper use of wearing a mask
- Cover your cough
- See page # 10 (Pediatric Office Pandemic Plan template)

# Infection Control Procedures/Patient flow

- Developed a Hot Zone
- Segregation of patients
  - Check in –Reception/Triage
  - Designated waiting areas ill/well
  - Patient masked and roomed immediately
  - Exam rooms-designated as Hot Zone rooms
  - Designated hallways
  - Equipment Hot Zone only
  - Signage-(very important)
  - See pages 11-14 (Pediatric Office Pandemic Plan template)

#### Hot Zone Signage





For patient and staff protection,





You may see staff wearing protective equipment. (gowns, gloves, masks, goggles) GLEAN





Please no paper charts/forms in this room!

# **MASKED PATIENTS**



MASKS AND GARRAG

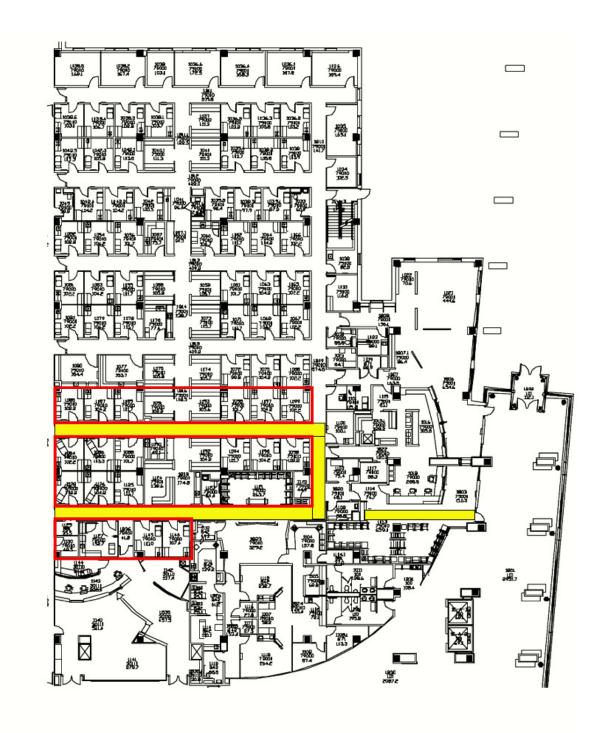


ONLY!

Isolation Patients







# Wins and losses

#### Well

- Advance preparation really paid off, especially in the early days
- Control and consistency of messaging bred confidence in staff and patients
- Patient segregation/routing
- Not so well
  - Triage difficulties
  - Physician buy in/adherence to public health guidance





#### **Pediatric Surge and Hospital Readiness**

#### Michael R Anderson MD FAAP

Associate Professor of Pediatric Critical Care, Rainbow Babies & Children's

Vice Chair, National Commission on Children and Disasters Washington DC

Vice President and Associate Chief Medical Officer, University Hospitals,
Cleveland OH

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#### **Disclaimers**

• Financial: None

 Professional: NDMS Part Time Federal Employee

Off Label Use: None



#### **Pediatric Surge**

- 1. Issues Surrounding "Day to Day" Readiness
- 2. Elements of Preparation and Response to Pediatric Mass Events
- 3. Potential Solutions
- 4. CDC Guidance
- 5. Q and A

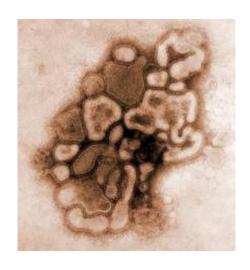




# Pandemic and Surge



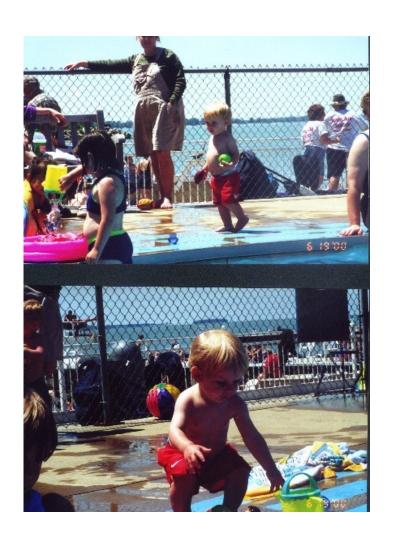








## But are we ready for the disaster of ONE?







#### Take Home Point One:

- Day to day readiness for pediatric emergencies will help prepare for BIG events
  - Training
  - Equipment
  - Transfer Protocols
  - Transport
  - Drills
  - Regionalization



## Take Home Point 2: Children are NOT Small Adults...

 Larger head for BSA Head Injuries Higher Center of Gravity \* Falls Large Area for **Evaporative Losses →**Temp Control Veins!!! Access Nightmare Weight: Largest Change in over shortest time period Larger Room for Errors



#### **Pediatric Differences**

- Vitals differ w age
  - Cheat Sheet
  - Practice/Experience

Different Response to stress

- Different Diseases
- Triage Tools





## Pediatric Physiology-Disasters

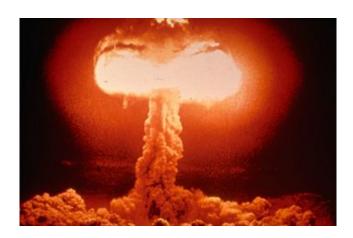
- Thin skin
- Greater surface area
- Closer to ground
- Faster Respiratory Rate
- Unable to escape
- Found in large groups





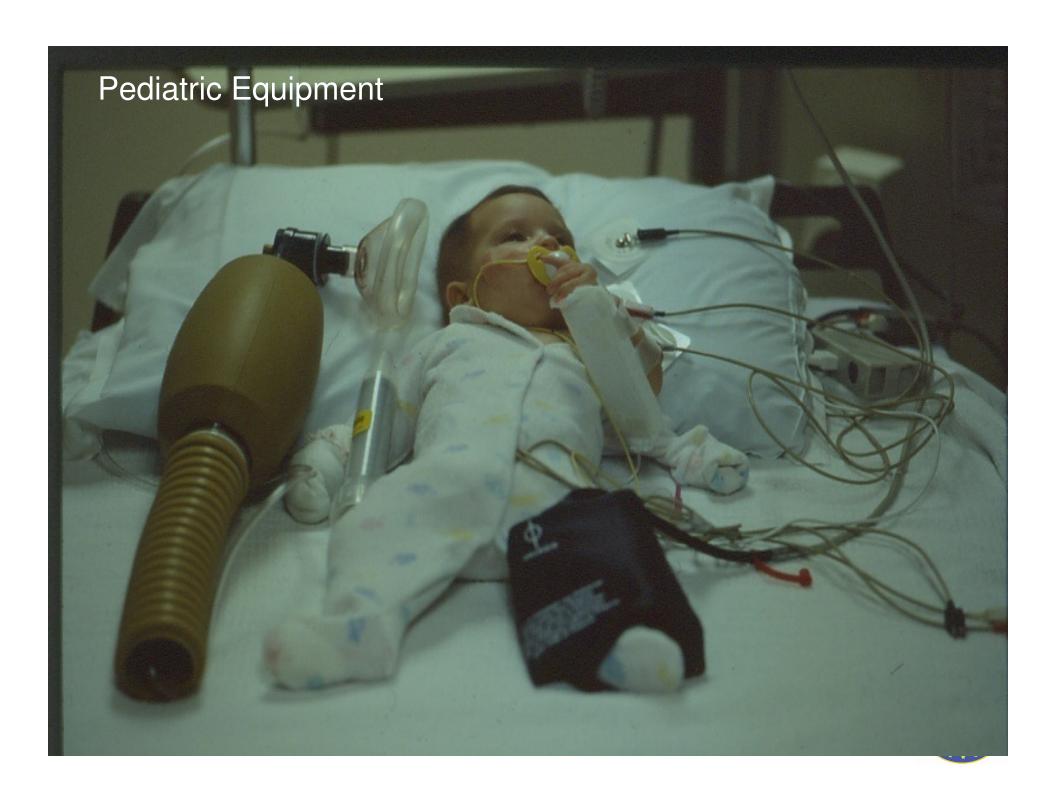
## Pediatric Physiology-WMD

- Infectious Diarrhea
  - Greater risk of dehydration
- Smallpox
  - Greater risk of vaccine complications
- Blister agents
  - Greater risk of skin loss
- Nerve agents
  - Seizures, pulmonary edema
- Radiation
  - Greater penetration





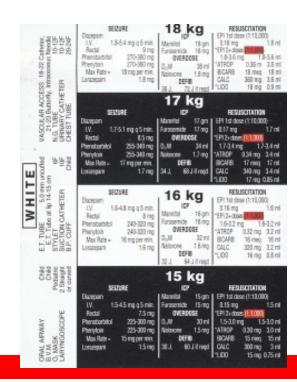




## Pediatric Equipment



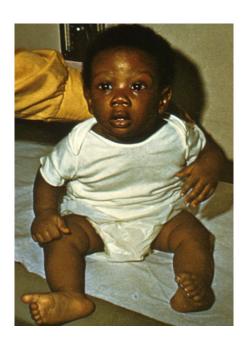






## Pediatric Equipment: IV Access





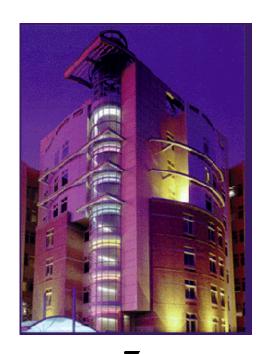
How fast can these guys get an IV started in this 1 year old?



## Continuum of Care













# Take Home 3: We are NOT as prepared for day to day readiness as we should be.....









# So, How's The Foundation of Our Nation's Emergency Care System?

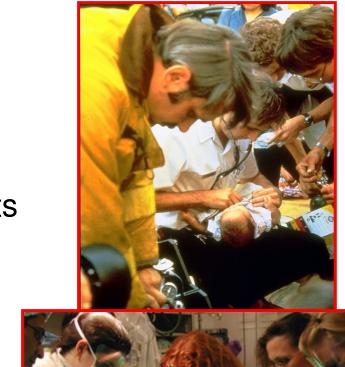
- Existing public safety systems (EMS, fire, etc) are over-taxed by day-to-day demands
- EMS and trauma systems are woefully under-funded
- Hospital-based ED's are dangerously overcrowded
- Pediatric capabilities of our emergency and disaster care systems is uncertain



## Pediatric Emergency Experience Gap

- Children account for 5 to 10% of all EMS patients
  - Limited training in pediatric care
  - Limited experience for EMT's and paramedics with sick kids
- Children make 25-30 million ED visits per year
  - Nearly 90% of children are cared for in general hospital ED's
  - Many ED's care for few children
    - 50% of ED's see < 10 per day</li>
  - Limited experience with sick kids for RNs and MDs in most US ED's

Gausche-Hill M, et al. Pediatrics 2007; 120:1229.



## Pediatric Readiness: "Growing Pains"

- Although children make up at least 1/4 of all ED visits nationwide
  - Most general EDs and EMS agencies do not require specialized pediatric training for their clinical staff
  - Only 6% of all EDs have the full scope of pediatric equipment, medications, supplies
  - Paucity of *research* on best practices, clinical outcomes,
     & patient safety in pediatric emergency care

"If there is one word to describe the current state of pediatric emergency care in 2006, it is <u>UNEVEN</u>"
--- IOM Panel, 2006

## Take Home 4: Surge!!















#### Resources:

- http://www.bt.cdc.gov/healthcare/pediatric.asp
- COORDINATING PEDIATRIC MEDICAL CARE DURING AN INFLUENZA PANDEMIC
- PANDEMIC INFLUENZA PEDIATRIC OFFICE PLAN TEMPLATE (287 KB/32 PAGES) (WORD VERSION)
- OFFICE PREPAREDNESS FOR PEDIATRIC EMERGENCIES: PROVIDER MANUAL
- A DISASTER PREPAREDNESS PLAN FOR PEDIATRICIANS
- RESOURCE DIRECTORY TO ASSIST PEDIATRICIANS TO PREPARE
  THEMSELVES, THEIR HOSPITALS/OFFICES AND THEIR PATIENTS AND
  THEIR FAMILY



## Important Elements of Surge Planning.....

## Children's Hospitals:

- Area 1 Pediatric Medical Liaisons Between Children's Hospitals and General Hospitals
- Area 2 Internal Surge Capacity Assessment
- Area 3 Pandemic influenza alternate staffing model
- Area 4 Coordination with the Community Pandemic Influenza Response
- Area 5 Patient- and Family-Centered Care During a Pandemic Influenza Surge
- Area 6 Pandemic Influenza Pediatric Triage



## Important Elements of Surge Planning.....

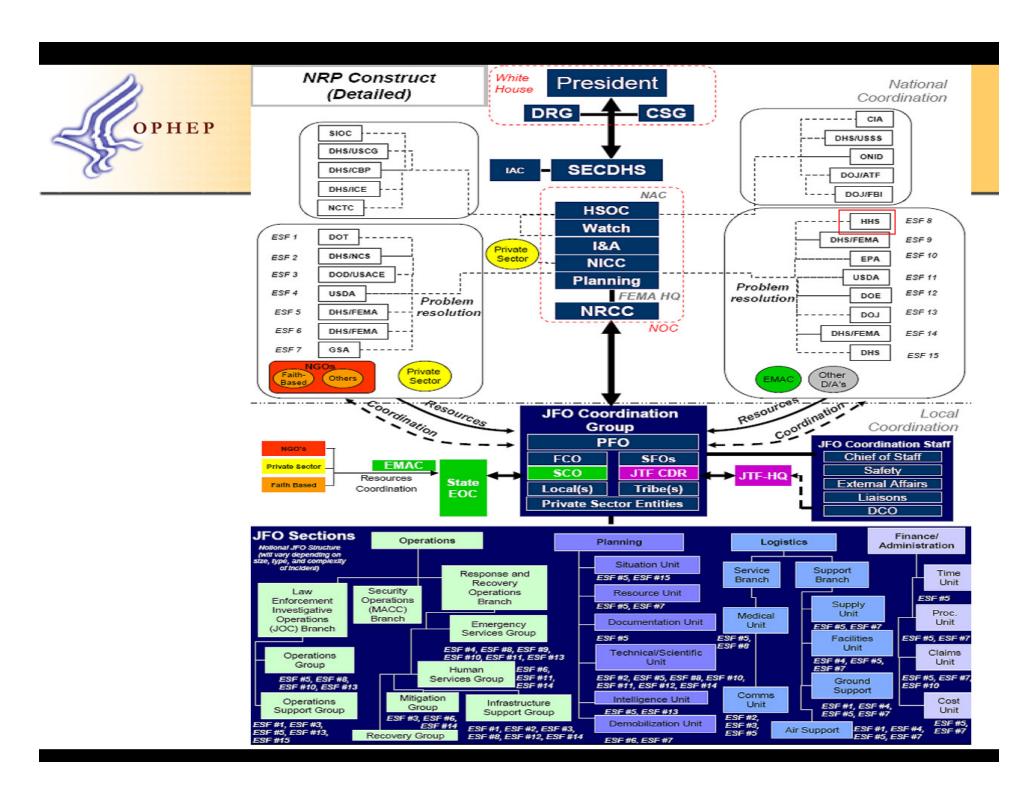
- Local Hospitals and Emergency Departments:
- Area 1 Pediatric Medical Liaisons and Other Key Contacts
- Area 2 Internal Pediatric Care Capabilities Assessment
- Area 3 Coordination with the Community Pandemic Influenza Response
- Area 4 Patient- and Family-Centered Care During a Pandemic Influenza Surge
- Area 5 Pandemic Influenza Pediatric Triage



## Important Elements of Surge Planning.....

- Local and Regional Planners:
- Area 1 Include pediatric experts in planning
- Area 2: Don't simply lump children w special needs issues
- Area 3: Reach out to peds facilities and children's hospitals





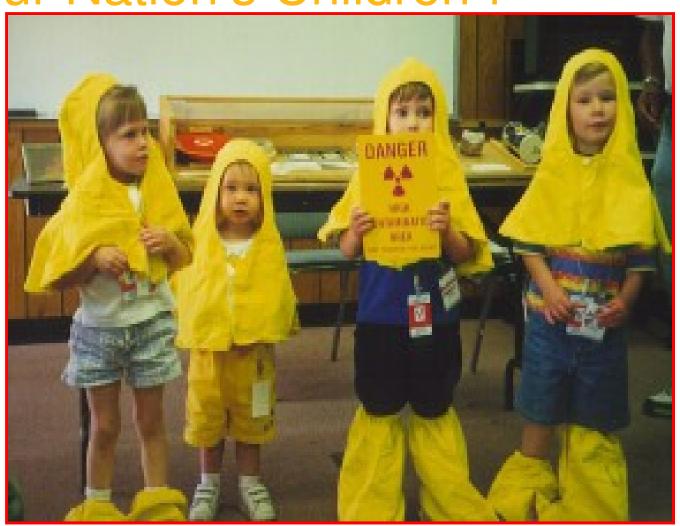
#### Conclusions

- Children:
  - 22% of the population
  - Unique physiology
  - Under-represented in disaster planning
  - Urgent need for local/regional/national planning
  - Good disaster response begins with good day to day response
  - Kids issues need a VOICE





# Thank You For Your Commitment to our Nation's Children!





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Those who participate in the COCA Conference Calls and who wish to receive CE credit/contact hours and will complete the online evaluation by Oct 29 2010 will use the course code EC1648. Those who wish to receive CE credits/contact hours and will complete the online evaluation between Oct 30, 2010 and Oct 29, 2011 will use course code WD1648. CE certificates can be printed immediately upon completion of your online evaluation. A cumulative transcript of all CDC/ATSDR CE's obtained through the CDC Training & Continuing Education Online System will be maintained for each user.

# Thank you for joining! Please email us questions at coca@cdc.gov

